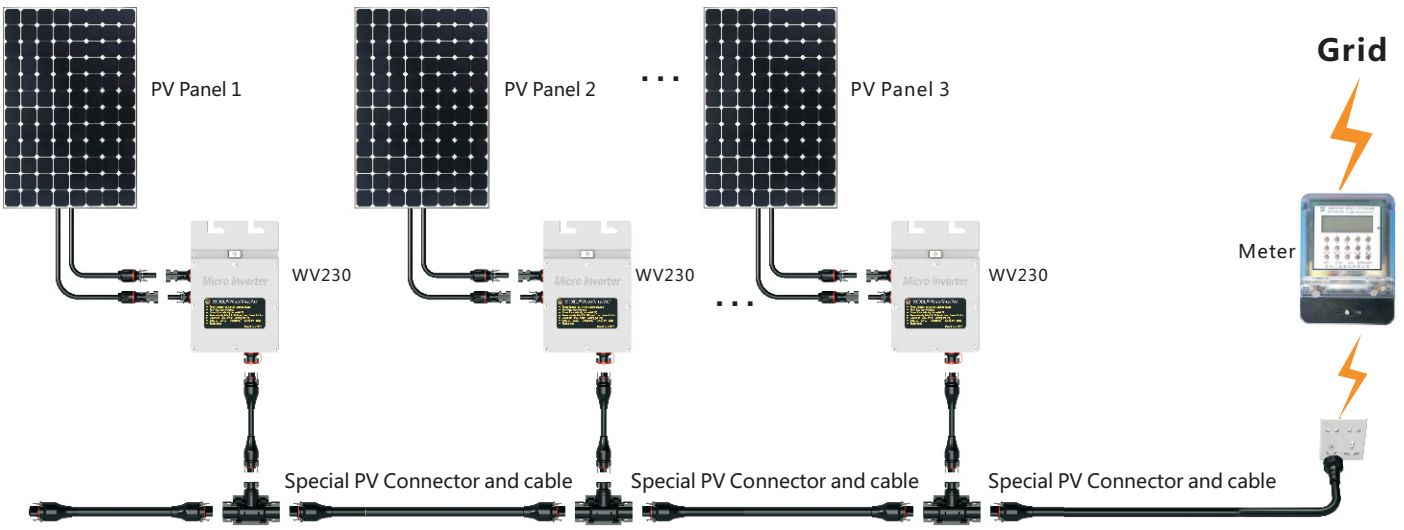
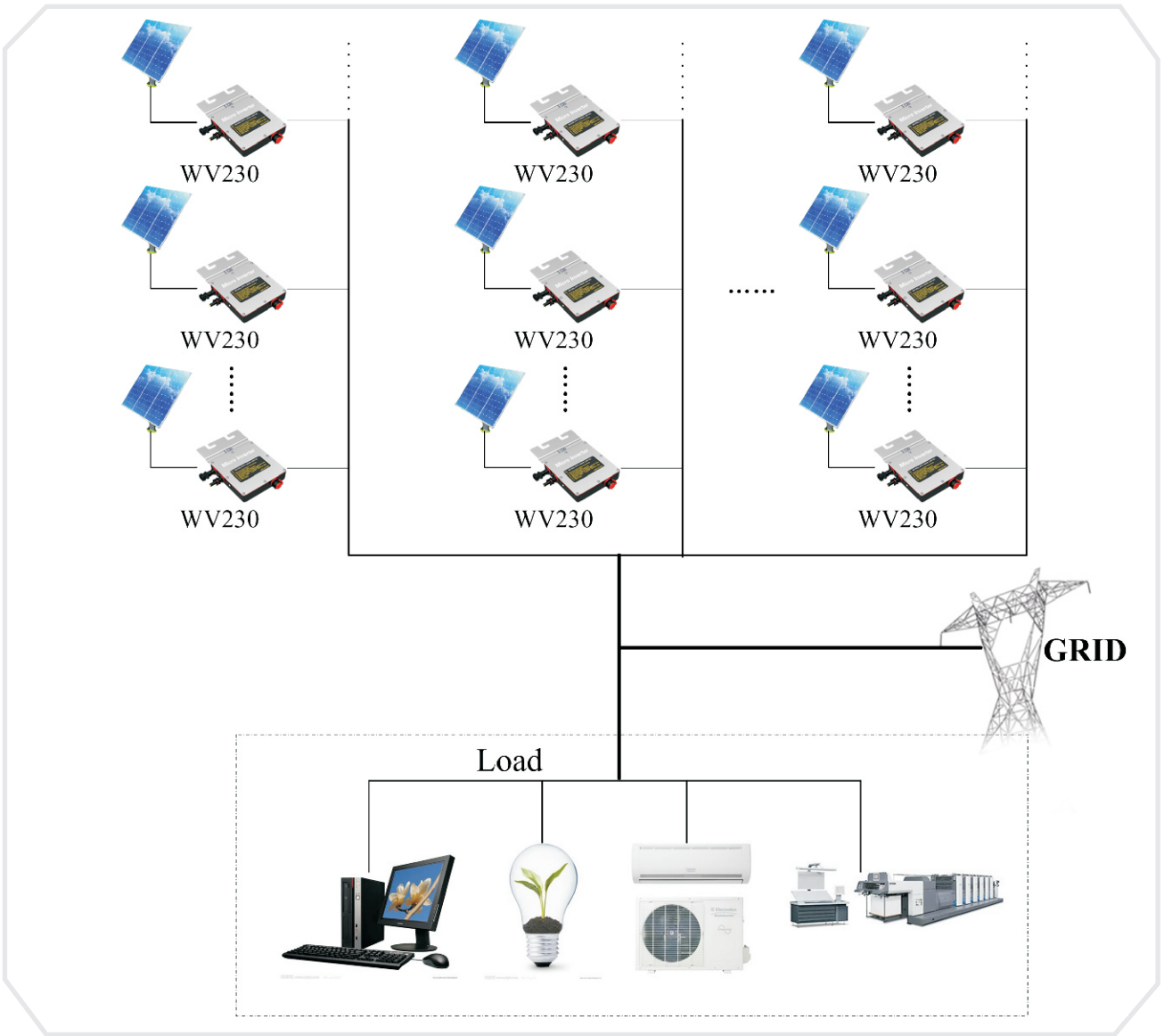
Green Energy
Micro Inverter Expert

Micro Inverter
W V 2 3 0
User Manual

WV Series Installation



Case Diagram



System Function

◆ **6-grade power search---**In overcast weather, the PV Panel' s output current is extremely tiny, then inverter will automatic open 6-grade power search function,and keep outputing efficent and steady during the low power .

◆ **Wide voltage input(22-50VDC)---**1.DC voltage input:22~50VDC; 2.Second level power variable voltage conversion.

◆ **High-frequency two-way and one-way grid function---**1.High frequency direct modulation, AC half wave synthesis; 2.Two-way grid means: Load consume directly. And can reverse AC current transmission.

◆ **Kinds of frequency output function---**1.It can apply to 50Hz and 60Hz frequency of AC;
2.Frequency range: 45 50 54/55 60 64 Hz;

◆**Directly connected to the solar panels (do not need to connect the battery)**

◆ **AC 0 angle with high precision auto-detection---**High-precision analysing the AC phase angle .The phase shift rate is less than 1%, thus achieve high-precision with phase modulation AC output together.
1.AC phase shift: < 1%; 2.Over-zero protection: 0.2 VAC; 3.AC switching: 50Hz / 60Hz.

◆ **Synchronous High-frequency Modulation**
1.Modulation synthesis: half wave and full-bridge modulation synthesis (100Hz / 120Hz) ;
2.Synthetic way: MOSFET full-bridge; 3.High frequency: 50KHz.

◆ **Pure Sine Wave Output---**Use SPWM directly to make pure sine wave output.
1.Output waveform: Adopt complementary PWM to push-pull pure sine wave; 2.Generate means: enhancement-mode SPWM.

◆ **Power Automatically Locked (APL)---** automatically powers locked in maximum power point, made output more stable.

◆ **Constant Current, Constant Power---**constant current and output power, without any overload, over-current phenomenon.

◆ **Exactly and timely automatic Island Effect Protection**

◆ **High-Frequency High Conversion Rate---**Adapt high frequency converter, the output more efficient.

◆ **Maximum Power Point Tracking (MPPT)---**high-precision (MPPT) operation power, automatic and immediate adjust the solar panels output power at the maximum output point,made the inverter discharge to power grid with the highest efficiency.

◆ **Stack using---** Such as: 4 micro inverter of 260W stacking can achieve 1040W. the number of the stacking is unlimited.

◆ **DC input---**Input voltage range: 22V to 50V,PV Panel: Recommend using the power more than 30W and the standard voltage of 36V PV panels.Suggestion making the PV in parallel.

◆ **AC output---**220VAC: 180V - 262V, 50HZ; 110V AC: 80V - 160V, 60HZ.

Notes:

★Please connect the inverter following the operation instruction show above. If have any question please contact with relative persons.
★Non-professionals do not disassemble.Only qualified personnel may repair this product.
★Please install inverter in the low humidity and well-ventilated place to avoid the inverter over-heating,and clear around the inflammable and explosive materials.
★When using this product, avoid children touching, playing, to avoid electric shock.
★Connected solar panels, battery or wind generators DC input DC power supply cable.

Accessories for product:

1.One warranty card;
2.One user manual;
3.One certificate of quality;
4.1 pouch of screw for micro inverter installation;
5.One AC Cable;

LED Display

1.Red light 3 second---Red LED light 3 second while device starts , then in working condition;
2.Green flash fast---MPPT searching;
3.Green flash slow---MPPT + searching;
4. Red flash slow---MPPT - searching;
5.Green lights on 3s and off 0.5s---MPPT locked;
6.Red light steady---a. Islanding protection;b.Over-temperature protection;c.Over / low AC voltage protection;
d. Over / low DC voltage protection; e.Fault

Remarks:
LED flashing in the process of being working condition:inverters connected to AC & DC sides→Red LED light 3 second→Green LED flash fast(MPPT searching)→Green LED flash slow(MPPT + searching) / Red LED flash slow (MPPT - searching) / reen LED lights on 3s and off 0.5s (MPPT locked) .

Parameter Table

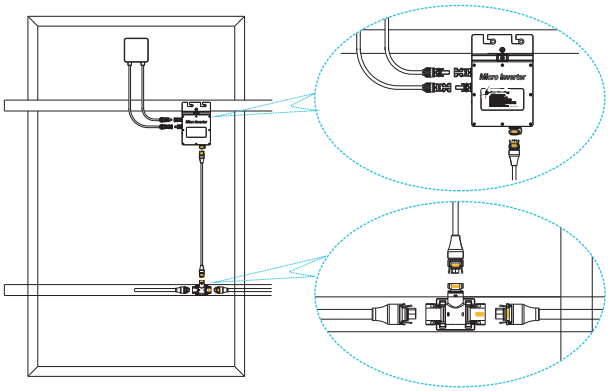
Models	WV230-230V/50Hz/120V/60Hz
Recommend use PV panels	300W/Vmp>34V/Voc<50V
DC MAX input current	15A
AC MAX output power	260Watt
DC MAX Open-circuit input-voltage	50VDC
DC input voltage range	22~50VDC
MAX output power factor	0.99
DC input Reverse voltage protection	FUSE
AC output voltage range	80V 125V 160V/180V 230V 262V
AC frequency range	45 50 54/55 60 64 Hz
THDIAC	<5%
AC Phase	<0.5%
Islanding protection	VAC；fAC
Output short circuit protection	Current-limiting
Led Display	Refer to “LED Display”
Communication	power line carrier-current communication
Standby Power	<1W
Night Power	<1W
Ambient temperature range	-40 ℃~65℃
Humidity	0~100%
Waterproof	IP67
Network test	DIN VDE 1026 UL1741
Certificate	CEC

Packing and weight

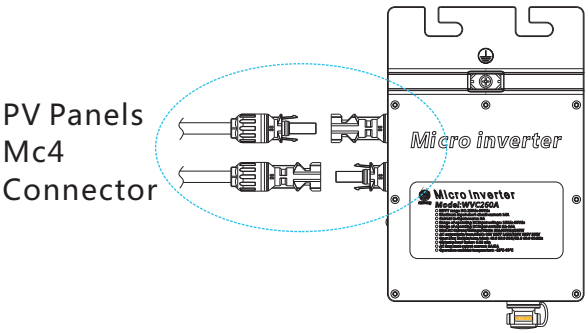
Net weight	0.65kg
Gross weight	0.85kg
Size(L x W x H)	195×130×32mm
Package(L x W x H)	Inner box:24.5x20x6CM Big box:41.8x38.8x26.8CM
Installation	fixed the inverter on the PV holder

Installation Of Micro Inverter

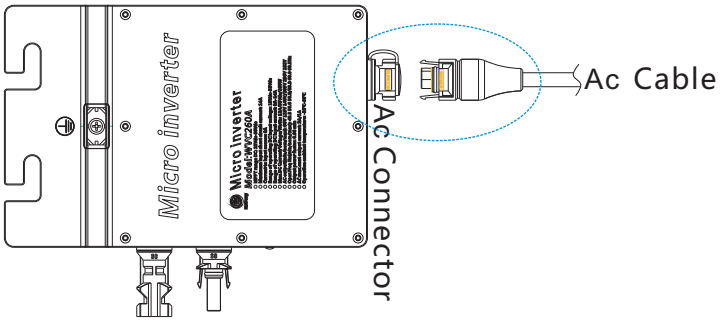
Step1 Installation for fixed the inverter on the PV holder with the screws attached is as following:

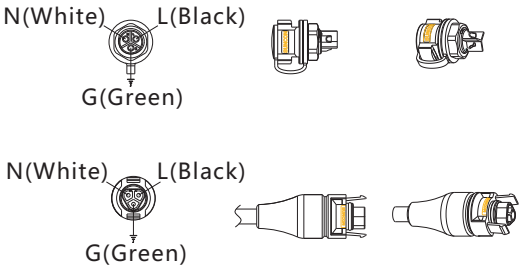


Step2 Connect the two DC terminal of the PV to the inverter, positive to positive, negative to negative. Show below:



Step3 Open the waterproof cap on AC output side of the micro inverter, then plug to AC power line. Show below:



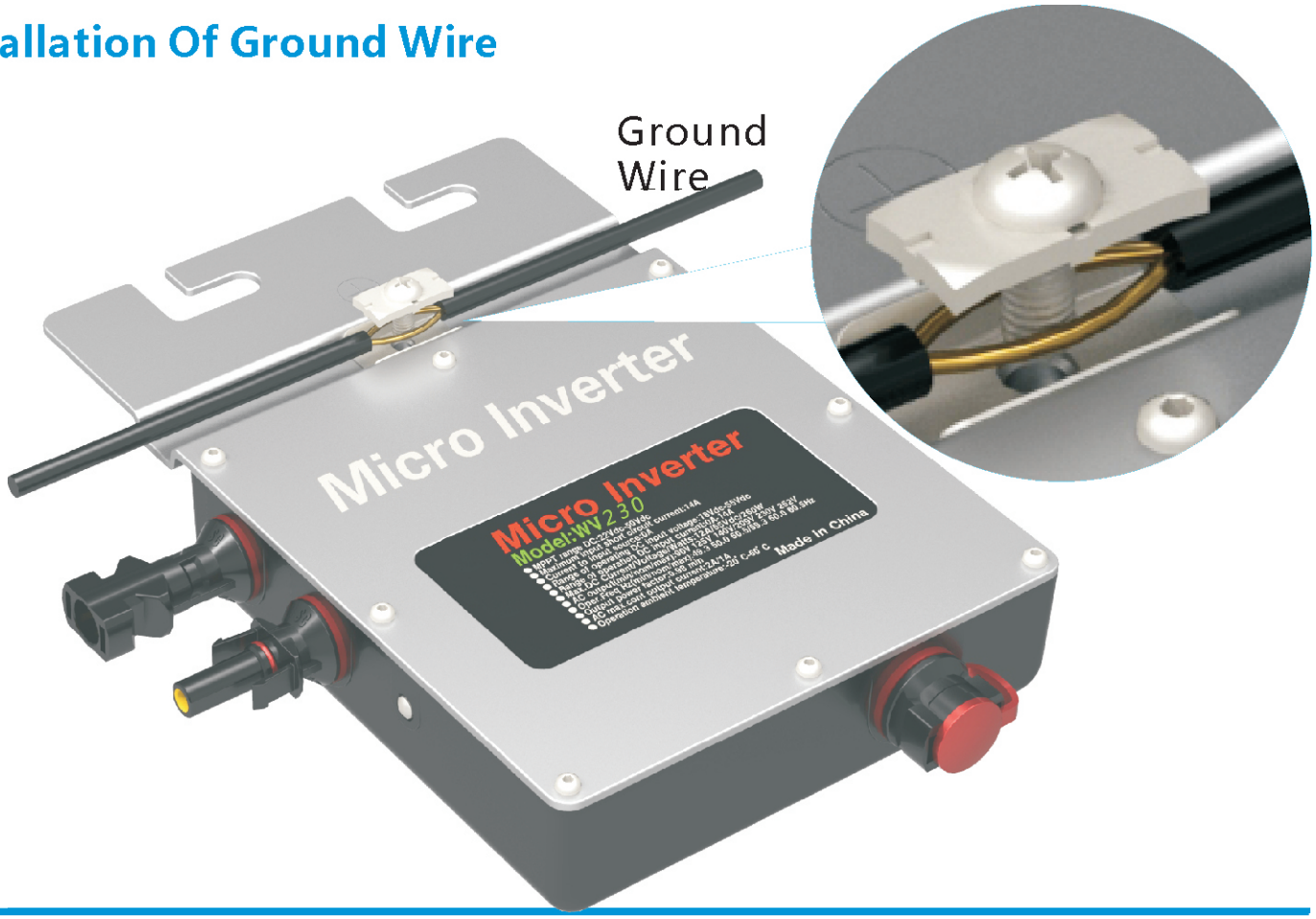


Step4 Plug the AC output line to main AC cable;

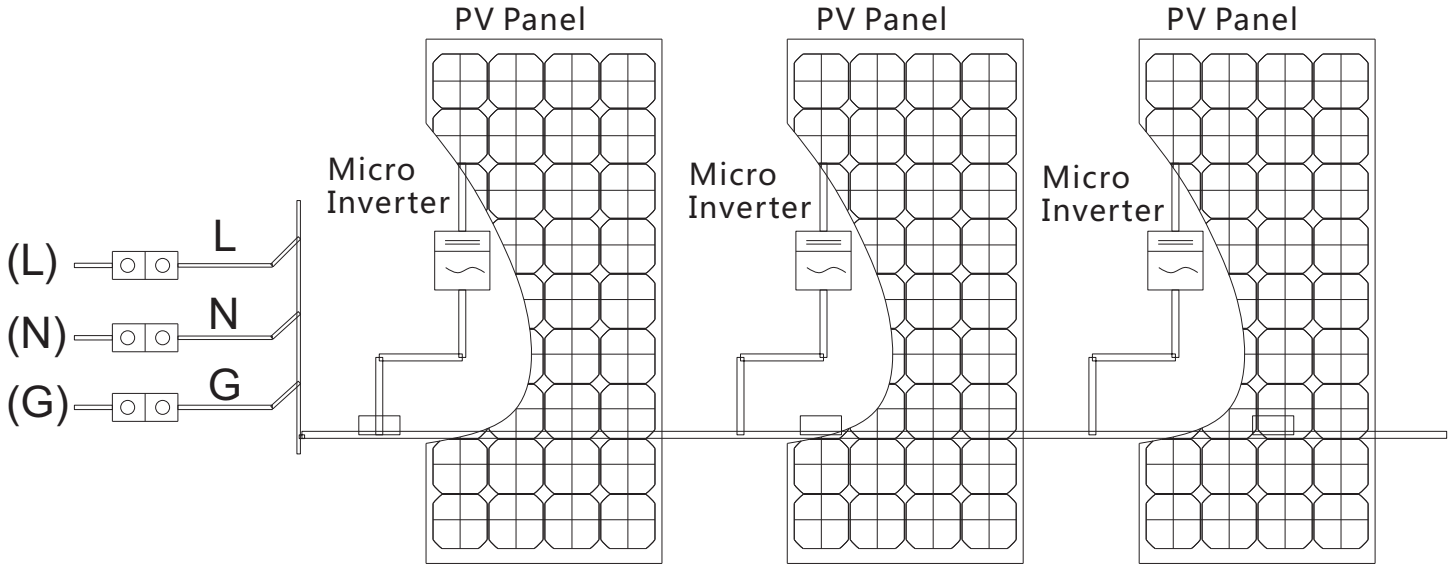
Step5 Repeat the first step to the third step to complete the installation of micro inverters;

Step6 Finally, please connect the AC main cable to the utility grid to run renewable energy and saving $$$!

Installation Of Ground Wire



Single-Phase Connection



Three-Phase Connection